NAME OF THE WORK: PACKAGE NO.03
(CONSISTS OF 5 WORKS)

Second and Part Bill

Quality Control Reports

BOOK NO – 02

VOLUME-II WARD-08

QC ABSTRACT

NAME OF WORK: Package No-03 (Consists of 5 works)

SL NO	Item Of Work	Name of Test	Frequency of Test/Quantity	Executed Quantity	Number of Tests Required	Number of Tests Conducted
		Materials				
1	Cement	Fineness by dry sieving	One Test		1	1
		Finess by Air permeablity method	One Test		1	1
		Density	One Test		1	1
		Standard Consistency	One Test		1	1
		Initial Setting time	One Test		1	1
		Final Setting time	One Test		1	1
		Soundness (Le Chatelier's Method)	One Test		1	1
		Compressive Strength	One Test		1	1
2	Coarse aggregate(40 mm down size)	SIEVE ANALYSIS	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		Specific Gravity	One Test		1	1
		Bulk Density(Loose)	One Test		1	1
		Bulk Density(Compacted)	One Test		1	1
		Water Absorption	One Test		1	1
3	Coarse aggregate(20 mm down size)	SIEVE ANALYSIS	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		Specific Gravity	One Test		1	1
		Bulk Density(Loose)	One Test		1	1
		Bulk Density(Compacted)	One Test		1	1
		Water Absorption	One Test		1	1
		Aggregate crushing Value	One Test		1	1
		Aggregate Impact Value	One Test		1	1
4	Fine aggregate	SIEVE ANALYSIS	One Test		1	1
		Water Absorption	One Test		1	1
		Specific Gravity	One Test		1	1
		Material finer than 75 micron	One Test		1	1
5	Steel	Bend test	One Test		1	1
		Tensile Test	One Test		1	1
		Yield Test	One Test		1	1
		ReBend test	One Test		1	1
6	KERB	Core Compressive strength	One Test		1	1
		Corrected Cylinder Compressive strength	One Test		1	1
		Equivalent Cube Compressive strength	One Test		1	1
7	Block(400*150*200)	BLOCK DENSITY	One Test		1	1
		WATER ABSORPTION	One Test		1	1
		DIMENSION ANALYSIS	One Test		1	1
		COMPRESSIVE STRENGTH	One Test		1	1

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8	Precast (100mm)	Core Compressive Strength	One Test		1	1
		Corrected Cylinder Compressive Strength	One Test		1	1
		Equivalent Cube Compressive Strength	One Test		1	1
9	Precast (230mm)	Core Compressive Strength	One Test		1	1
		Corrected Cylinder Compressive Strength	One Test		1	1
		Equivalent Cube Compressive Strength	One Test		1	1
10	RCC(M20)	Compressive Strength(7days and 28days)	6 sets	125.6	12	12
11	WMM	Sieve Analysis	One Test		1	1
		Impact Value	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
12	DBM	SIEVE ANALYSIS	One Test		1	1
		STRIPPING VALUE	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		IMPACT VALUE	One Test		1	1
		Specific gravity	One Test		1	1
		Water Absorption	One Test		1	1
		Marshal Stability	One Test		1	1
		Marshal flow	One Test		1	1
		Percent air Voids	One Test		1	1
		Percent Voids in mineral Aggregate	One Test		1	1
		Percent Voids filled with Bitumen	One Test		1	1
		Density	One Test		1	1
		Gradation	One Test		1	1
13	BC	SIEVE ANALYSIS	One Test		1	1
		STRIPPING VALUE	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		IMPACT VALUE	One Test		1	1
		Specific gravity	One Test		1	1
		Water Absorption	One Test		1	1
		Marshal Stability	One Test		1	1
		Marshal flow	One Test		1	1
		Percent air Voids	One Test		1	1
		Percent Voids in mineral	One Test		1	1
		Percent Voids filled with Bitumen	One Test		1	1
		Density	One Test		1	1
		Gradation	One Test		1	1
14	BITUMEN	Ductility	One Test		1	1
		Softening Point	One Test		1	1
		Penetration	One Test		1	1
		Flash Point	One Test		1	1
		Fire Point	One Test		1	1
15	TACK COAT	Rate of spread	One Test		1	1

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2022-12-14-01** **Date: 16-12-22**
Project Name	:	Package No-03 (Consists of 5 works)
Agency	:	M/s Karthik Enterprises. No.123. Aishwarya. 3rd Cross. Ramanna Garden. Vidyaranyapura. Bengaluru-560097
Customer's Reference	:	BBMP/EE/BTP/WO/78/2022-23
Date of Receipt	:	14-12-22
Sample Type	:	JSW 53grade
Reference to BIS codes	:	IS 269:2015 Ordinary Portland cement Specification , IS 4031 (Part 4,5):1988 IS 4031 Part 1 (RA 2021) DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4 IS 4031 Part 2, (RA 2018) Determination of Fineness by Blaine Air Permeability IS 4031 Part 3, (RA 2019) Determination of Soundness, Clause 5, Clause 6 IS 4031 Part 4, (RA 2019) Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, (RA 2019) Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 11, (RA 2019)DETERMINATION OF DENSITY , Clause 6
Date of test	:	14-12-22
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Sl.No.	Physical properties	Results	Requirement as per IS 269:2015
1	Fineness by dry sieving (%)	1.85	–
2	Finess by Air permeablity method (m^2/kg.Min)	348.6	225m^2/kg. Min
3	Density (gm/cc)	3.15	–
4	Standard Consistency (%)	28.5%	Not specified
5	Initial Setting time	175 minutes	Not less than 30 minutes
6	Final Setting time	285 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5mm	Not more than 10 mm

* The results obtained are satisfactory as per standard requirements.

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Quality Manager

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2022-12-14-01** **Date: 11-01-23**
Project Name	:	Package No-03 (Consists of 5 works)
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097
Customer's Reference	:	BBMP/EE/BTP/WO/78/2022-23
Date of Receipt	:	14-12-22
Sample Type	:	JSW 53grade
Reference to BIS codes	:	IS 269:2015 Ordinary Portland cement Specification , IS 4031 (Part 4,5):1988 , IS 4031 Part 4, (RA 2019) Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, (RA 2019) Determination of Compressive Strength, Clause 6
Date of test	:	14-12-22
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 269:2015
1	3 Days	29.5N/mm^2	Not less than 27 N/mm^2
2	7 Days	38.0N/mm^2	Not less than 37 N/mm^2
3	28 Days	57.0N/mm^2	Not less than 53 N/mm^2

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2022-12-14-01**	**Date: 17-12-22**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer's Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	14-12-22	
Sample Type	:	40mm down size coarse aggregate	
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2021 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties	
Date of test	:	14-12-22	

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	215	215	1.4	98.6	90-100
3	20 mm	7455	7670	51.1	48.9	30-70
4	10 mm	4266	11936	79.6	20.4	10-35
5	4.75 mm	2844	14780	98.5	1.5	0-5
6	Pan	220	15000	100.0	0	---

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2022-12-14-01** **Date: 17-12-22**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	11.9	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	12.3	
3	Specific Gravity	2.64	–
4	Bulk Density(Loose) (Kg/l)	1.41	–
5	Bulk Density(Compacted) (Kg/l)	1.47	–
6	Water Absorption(%)	0.23	–

* The results obtained are satisfactory as per standard requirements.

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Quality Manager

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2022-12-14-01**	**Date: 16-12-22**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	17-12-22	
Sample Type/ Size	:	20mm down size coarse aggregate	
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2021 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties	
Date of test	:	14-12-22	

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	245	245	4.9	95.1	90-100
3	10 mm	2635	2880	57.6	42.4	25-55
4	4.75 mm	1780	4660	93.2	6.8	0-10
5	Pan	340	5000	100	0	-

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2022-12-14-01** **Date: 16-12-22**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	9.4	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	10.5	
3	Specific Gravity	2.66	--
4	Bulk Density(Loose) (Kg/l)	1.52	--
5	Bulk Density(Compacted) (Kg/l)	1.56	--
6	Water Absorption(%)	0.21	--
7	Aggregate crushing Value(%)	24.1	Max 30% for Aggregates to be used in concrete for wearing Surface. In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	23.7	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2022-12-14-01** **Date: 16-12-22**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 17-12-22

Sample Type : Fine Aggregate

Reference to BIS codes : IS 383 : 2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1, 3) RA2012
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption

Date of test : 14-12-22

Total weight taken : 1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	30	30	3.0	97.0	90-100	90-100	90-100	95-100
3	2.36 mm	51	81	8.1	91.9	60-95	75-100	85-100	95-100
4	1.18 mm	235	316	31.6	68.4	30-70	55-90	75-100	90-100
5	600 micron	201	517	51.7	48.3	15-34	35-59	60-79	80-100
6	300 micron	201	718	71.8	28.2	5-20	8-30	12-40	15-50
7	150 micron	190	908	90.8	9.2	0-10	0-10	0-10	0-15
8	Pan	92	1000	100.0	0.0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2022-12-14-01** **Date: 16-12-22**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	1.5	–
2	Specific Gravity	2.59	–
3	Material finer than 75 micron(%)	9.2	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF STEEL

Lab ID	:	**CP-2022-12-14-01**	**Date: 16-12-22**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer's Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	14-12-22	
Sample Type	:	A-one Gold	
Reference to BIS codes	:	IS 1786-2008, IS:1608-2005(RA 2011), IS 1599-2019.	
Date of test:	:	14-12-22	

Sl.No	Identification of sample	Grade of the sample	Diameter of the steel bar	Weight of the sample	Yield stress	Tensile strength	Elongation	Bend test	Rebend test
			(mm)	(kg/m)	(N/mm2)	(N/mm2)	(%)		
1	A-one Gold	Fe550	8	0.391	565	650	20.0%	Satisfactory	Satisfactory
2	A-one Gold	Fe550	10	0.616	560	668	20.0%	Satisfactory	Satisfactory
3	A-one Gold	Fe550	12	0.888	570	673	20.0%	Satisfactory	Satisfactory

* The results obtained are satisfactory as per standard requirements.

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Spectro Chemical Analysis, Physical, Non Destructive All Type of Metal Testing

Lab ID	:	**CP-2022-12-14-01**	**Date: 16-12-22**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer's Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	14-12-22	
Sample Type / Grade	:	A-one Gold	
Date of test	:	14-12-22	

CHEMICAL ANALYSIS

Sl. No.	Chemical Contents	8mm	10mm	12mm	Max. Limits as per IS:1786-2008, Gr. Fe 550
1	Carbon (C) %	0.143	0.130	0.141	0.300 Max
2	Phosphor (P) %	0.036	0.042	0.041	0.050 Max
3	Sulphur (S) %	0.038	0.041	0.042	0.055 Max
4	Sulphur & Phosphorus %	0.081	0.058	0.076	0.100 Max

Note : The above material confirms to ASI S S 304 with respect to elements analysed

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TEST REPORT OF PRECAST COVER SLAB

Lab ID : **CP-2022-12-16-01** **Date: 04-01-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 31-12-22

Sample Type /Size : Precast Cover Slab - 100mm Thick

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete

Date of test : 31/12/2022

Grade of Slab : M20

Sl. No.	Identification Mark	Diameter of the core	Height of the core	Weight of the core	Area	Failure Load	Core Compressive strength	Corrected Cylinder Compressive strength	Equivalent Cube Compressive strength
		(mm)	(mm)	(kg)	(Sq.mm)	(KN)	(N/mm^2)	(N/mm^2)	(N/mm^2)
1	Cover Slab-1	77.52	100.40	1.110	4719	102.5	21.7	20.2	25.3
2	Cover Slab-2	77.21	100.38	1.121	4681	104.9	22.4	20.8	26.1
3	Cover Slab-3	77.18	100.22	1.115	4678	102.6	21.9	20.4	25.5

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF PRECAST COVER SLAB

Lab ID : **CP-2022-12-16-01** **Date: 04-01-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 31-12-22

Sample Type /Size : Precast Cover Slab - 230mm Thick

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete

Date of test : 31/12/2022

Grade of Slab : M20

Sl. No.	Identification Mark	Diameter of the core	Height of the core	Weight of the core	Area	Failure Load	Core Compressive strength	Corrected Cylinder Compressive strength	Equivalent Cube Compressive strength
		(mm)	(mm)	(kg)	(Sq.mm)	(KN)	(N/mm^2)	(N/mm^2)	(N/mm^2)
1	Cover Slab-1	77.25	230.25	2.119	4686	104.5	22.3	20.7	25.9
2	Cover Slab-2	77.36	230.42	2.130	4699	101.2	21.5	20.0	25.0
3	Cover Slab-3	77.49	230.11	2.112	4715	103.8	22.0	20.5	25.6

* The results obtained are satisfactory as per standard requirements.

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-20-01** **Date: 26/12/2022**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 20-12-22

Customer ID : Drain Bottom Raft Concrete - A Block 1st Main AMCO Layout

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 26/12/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft Concrete - A Block 1st Main AMCO Layout	M20	19/12/2022	26/12/2022	149.82 X 151.65 X 150.92	22721	8.568	425.5	18.7	18.6
2	Drain Bottom Raft Concrete - A Block 1st Main AMCO Layout	M20	19/12/2022	26/12/2022	151.99 X 150.87 X 150.87	22931	8.157	416.4	18.2	
3	Drain Bottom Raft Concrete - A Block 1st Main AMCO Layout	M20	19/12/2022	26/12/2022	149.33 X 151.71 X 150.91	22655	8.110	425.9	18.8	

* The results obtained are satisfactory as per standard requirements.

Assistant Engineer
Kodigehalli Sub Division
BBMP, Bangalore

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.
R KARTHIK RECHAN
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Quality Manager

****End of Report****

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-20-01** **Date: 16/01/2023**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 20-12-22

Customer ID : Drain Bottom Raft Concrete - A Block 1st Main AMCO Layout

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 16/01/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft Concrete - A Block 1st Main AMCO Layout	M20	19/12/2022	16/01/2023	151.18 X 150.35 X 149.69	22730	8.799	531.5	23.4	23.0
2	Drain Bottom Raft Concrete - A Block 1st Main AMCO Layout	M20	19/12/2022	16/01/2023	149.12 X 151.80 X 151.01	22637	8.504	513.7	22.7	
3	Drain Bottom Raft Concrete - A Block 1st Main AMCO Layout	M20	19/12/2022	16/01/2023	149.28 X 149.43 X 150.80	22306	8.262	513.1	23.0	

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

CIVIL Pro Sig..... Date..... BANGALORE

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R KARTHIK RECHAN
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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-22-01** **Date: 28/12/2022**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 22-12-22

Customer ID : Drain Side Wall Concrete - AMCO Layout , A Block 1st Main Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 28/12/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall Concrete - AMCO Layout , A Block 1st Main Road	M20	21/12/2022	28/12/2022	150.89 X 149.79 X 149.50	22601	8.749	407.8	18.0	18.3
2	Drain Side Wall Concrete - AMCO Layout , A Block 1st Main Road	M20	21/12/2022	28/12/2022	150.06 X 149.89 X 150.23	22493	8.281	408.3	18.2	
3	Drain Side Wall Concrete - AMCO Layout , A Block 1st Main Road	M20	21/12/2022	28/12/2022	150.71 X 150.97 X 150.47	22752	8.759	425.2	18.7	

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-22-01** **Date: 18/01/2023**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 22-12-22

Customer ID : Drain Side Wall Concrete - AMCO Layout , A Block 1st Main Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 18/01/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall Concrete - AMCO Layout , A Block 1st Main Road	M20	21/12/2022	18/01/2023	150.42 X 149.59 X 151.83	22502	8.537	521.4	23.2	23.1
2	Drain Side Wall Concrete - AMCO Layout , A Block 1st Main Road	M20	21/12/2022	18/01/2023	150.11 X 149.37 X 150.05	22422	8.597	504.3	22.5	
3	Drain Side Wall Concrete - AMCO Layout , A Block 1st Main Road	M20	21/12/2022	18/01/2023	149.77 X 149.96 X 151.51	22460	8.294	529.4	23.6	

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-27-01** **Date: 02/01/2023**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 27-12-22

Customer ID : Drain Bottom Raft Concrete - 1st Main AMCO Layout A Block

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 02/01/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft Concrete - 1st Main AMCO Layout A Block	M20	26/12/2022	02/01/2023	149.90 X 150.57 X 150.18	22570	8.195	414.9	18.4	18.7
2	Drain Bottom Raft Concrete - 1st Main AMCO Layout A Block	M20	26/12/2022	02/01/2023	149.48 X 151.82 X 151.25	22694	8.654	427.4	18.8	
3	Drain Bottom Raft Concrete - 1st Main AMCO Layout A Block	M20	26/12/2022	02/01/2023	150.80 X 149.89 X 149.88	22604	8.859	424.8	18.8	

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

CIVIL Pro Sig..... Date..... BANGALORE

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-27-01** **Date: 23/01/2023**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 27-12-22

Customer ID : Drain Bottom Raft Concrete - 1st Main AMCO Layout A Block

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 23/01/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft Concrete - 1st Main AMCO Layout A Block	M20	26/12/2022	23/01/2023	150.47 X 150.32 X 151.61	22618	8.951	532.2	23.5	23.1
2	Drain Bottom Raft Concrete - 1st Main AMCO Layout A Block	M20	26/12/2022	23/01/2023	150.77 X 149.70 X 150.09	22572	8.756	511.3	22.7	
3	Drain Bottom Raft Concrete - 1st Main AMCO Layout A Block	M20	26/12/2022	23/01/2023	149.75 X 149.85 X 150.52	22440	8.243	520.0	23.2	

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-30-01** **Date: 04/01/2023**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 30-12-22

Customer ID : Culvert Bottom Raft Concrete - 1st Main Sarovara Layout

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 04/01/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Culvert Bottom Raft Concrete - 1st Main Sarovara Layout	M20	28/12/2022	04/01/2023	150.59 X 150.55 X 151.50	22671	8.701	418.3	18.5	18.2
2	Culvert Bottom Raft Concrete - 1st Main Sarovara Layout	M20	28/12/2022	04/01/2023	149.03 X 151.39 X 151.54	22562	8.242	410.4	18.2	
3	Culvert Bottom Raft Concrete - 1st Main Sarovara Layout	M20	28/12/2022	04/01/2023	149.80 X 149.29 X 151.86	22364	8.356	403.9	18.1	

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

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Quality Manager

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-30-01** **Date: 25/01/2023**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 30-12-22

Customer ID : Culvert Bottom Raft Concrete - 1st Main Sarovara Layout

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 25/01/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Culvert Bottom Raft Concrete - 1st Main Sarovara Layout	M20	28/12/2022	25/01/2023	149.31 X 151.67 X 151.49	22647	8.284	542.9	24.0	
2	Culvert Bottom Raft Concrete - 1st Main Sarovara Layout	M20	28/12/2022	25/01/2023	151.75 X 149.45 X 149.26	22680	8.809	518.1	22.8	23.3
3	Culvert Bottom Raft Concrete - 1st Main Sarovara Layout	M20	28/12/2022	25/01/2023	150.29 X 151.59 X 149.15	22782	8.441	525.8	23.1	

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

CIVIL Pro Sig..... Date..... BANGALORE

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R KARTHIK RECHAN
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Quality Manager

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-30-01** **Date: 04/01/2023**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 30-12-22

Customer ID : Drain Side Wall Concrete - 1st Main AMCO Layout A Block

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 04/01/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall Concrete - 1st Main AMCO Layout A Block	M20	28/12/2022	04/01/2023	149.32 X 150.81 X 151.05	22520	8.309	410.2	18.2	18.3
2	Drain Side Wall Concrete - 1st Main AMCO Layout A Block	M20	28/12/2022	04/01/2023	149.06 X 151.52 X 151.45	22586	8.212	413.7	18.3	
3	Drain Side Wall Concrete - 1st Main AMCO Layout A Block	M20	28/12/2022	04/01/2023	151.89 X 151.17 X 151.98	22962	8.354	421.5	18.4	

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.
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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-30-01** **Date: 25/01/2023**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 30-12-22

Customer ID : Drain Side Wall Concrete - 1st Main AMCO Layout A Block

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 25/01/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall Concrete - 1st Main AMCO Layout A Block	M20	28/12/2022	25/01/2023	150.85 X 149.37 X 150.36	22532	8.972	522.5	23.2	22.9
2	Drain Side Wall Concrete - 1st Main AMCO Layout A Block	M20	28/12/2022	25/01/2023	150.91 X 150.85 X 151.38	22765	8.324	512.4	22.5	
3	Drain Side Wall Concrete - 1st Main AMCO Layout A Block	M20	28/12/2022	25/01/2023	149.98 X 150.27 X 149.13	22538	8.991	521.0	23.1	

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.
R KARTHIK RECHAN
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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-31-01** **Date: 05/01/2023**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 31-12-22

Customer ID : Culvert Side Wall Concrete - 1st Main Sarovara Layout

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 05/01/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Culvert Side Wall Concrete - 1st Main Sarovara Layout	M20	29/12/2022	05/01/2023	150.44 X 149.11 X 151.36	22432	8.271	418.9	18.7	18.6
2	Culvert Side Wall Concrete - 1st Main Sarovara Layout	M20	29/12/2022	05/01/2023	150.90 X 151.07 X 150.21	22796	8.141	429.4	18.8	
3	Culvert Side Wall Concrete - 1st Main Sarovara Layout	M20	29/12/2022	05/01/2023	149.14 X 150.93 X 149.80	22511	8.271	411.2	18.3	

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

CIVIL Pro Sig..... Date..... BANGALORE

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-31-01** **Date: 27/01/2023**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 31-12-22

Customer ID : Culvert Side Wall Concrete - 1st Main Sarovara Layout

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 26/01/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Culvert Side Wall Concrete - 1st Main Sarovara Layout	M20	29/12/2022	26/01/2023	149.63 X 151.03 X 149.52	22599	8.965	538.0	23.8	23.5
2	Culvert Side Wall Concrete - 1st Main Sarovara Layout	M20	29/12/2022	26/01/2023	150.24 X 150.61 X 149.58	22627	8.850	515.8	22.8	
3	Culvert Side Wall Concrete - 1st Main Sarovara Layout	M20	29/12/2022	26/01/2023	150.18 X 149.43 X 150.07	22442	8.173	537.8	24.0	

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.
R KARTHIK RECHAN
Authorized Signatory
Quality Manager

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE KERB STONE

Lab ID : **CP-2022-12-31-01** **Date: 04-01-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 31-12-22

Sample Type /Size : CC Kerb Stone/ 450*165*400mm

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete

Date of test : 31/12/2022

Grade of Kerb : M20

Sl. No.	Identification Mark	Diameter of the core	Height of the core	Weight of the core	Area	Failure Load	Core Compressive strength	Corrected Cylinder Compressive strength	Equivalent Cube Compressive strength
		(mm)	(mm)	Kg	(Sq.mm)	(KN)	(N/mm2)	(N/mm2)	(N/mm2)
1	A	77.01	165.51	2.864	4657	102.3	22.0	22.0	27.5
2	B	77.32	165.49	2.793	4695	100.1	21.3	21.3	26.7
3	C	77.24	165.50	2.815	4685	103.1	22.0	22.0	27.5

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
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Format No: CP/TF/01

TEST REPORT ON PHYSICAL REQUIREMENTS OF SOLID CONCRETE BLOCKS

Lab ID	:	**CP-2022-12-31-01** **Date: 04-01-23**
Project Name	:	Package No-03 (Consists of 5 works)
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097
Customer's Reference	:	BBMP/EE/BTP/WO/78/2022-23
Date of Receipt	:	31-12-22
Sample Type/Size	:	Solid concrete blocks size (400X150X200)mm
Reference to BIS codes	:	IS : 2185 (Part 1) : 2005(RA 2020) Concrete Masonry Specification Part 1:Hollow and Solid Concrete Blocks (Dimensions -Annex-B, Clause 9.2 and 10 , Block density Annex -C Clause 9.3 and10, Compressive strength Annex -D Clause 9.4 and 10, Water absorption Annex -E Clause 9.5 and 10)
Date of test	:	31-12-22

BLOCK DENSITY:

Sl. No.	Measurement of overall Dimensions of Individual Blocks			Overall Volume of the Block in Cubic Centimetres	Weight of Oven Dried Block in Kilograms to the nearest 10 Gram	Block Density in Kg/cum*10^6	Avg.Block Density in (Kg/cum)	As per IS 2185(Part 1) :2005 (RA 2010)
	Length	Breadth	Height					
	mm	mm	mm	(Cm^3)	Kg	Kg/m^3	Kg/m^3	
1	399	150	198	11850	21.624	1824.8	1811.1	Not less than 1800Kg/m^3
2	402	152	198	12099	21.024	1737.8		
3	402	151	200	12140	22.711	1870.7		

WATER ABSORPTION:

Sl. No.	Wet weight after water absorption	Dry weight (Oven dry)	Water Absorption	Avg.Water Absorption	As per IS 2185(Part 1):2005 (RA 2010)
	kg	kg	%	%	
1	33.91	32.29	4.79	4.23	Shall not be more than 10% by mass
2	33.57	32.16	4.22		
3	33.44	32.21	3.69		

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Lab ID : **CP-2022-12-31-01** **Date: 04-01-23**

DIMENSION ANALYSIS

Sl.no	Length mm	Breadth mm	Height mm	Requirement as per IS 2185(Part 1):2005
1	404	151	203	Length : ± 5mm Breadth : ± 3mm Height : ± 3mm
2	403	150	199	
3	401	151	202	
4	403	153	202	
5	402	150	202	
6	401	151	203	
7	404	149	199	
8	399	149	202	
9	403	152	202	
10	400	152	201	
11	400	152	200	
12	400	149	202	
13	402	149	200	
14	403	151	200	
15	402	150	201	
16	404	152	201	
17	400	151	200	
18	401	150	203	
19	401	151	199	
20	400	151	201	
Average of 20	**402**	**151**	**201**	

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BBMP, Bangalore

Lab ID : CP-2022-12-31-01 **Date: 04-01-23**

COMPRESSIVE STRENGTH:

Sl. No.	Size of solid block		Area	Failure Load	Compressive strength	Average Compressive strength
	Length	Breadth				
	mm	mm	(mm^2)	(KN)	N/mm^2	(N/mm^2)
1	400	150	60195	243.9	4.1	4.1
2	403	153	61626	249.8	4.1	
3	400	152	60700	260.0	4.3	
4	401	150	59959	244.5	4.1	
5	399	150	59869	254.4	4.3	
6	399	153	61005	243.4	4.0	
7	400	150	60019	248.3	4.1	
8	402	150	60311	258.8	4.3	

As per IS Requirements (Table 2, Clause 5.1, 5.2 and 9.4)

Compressive strength		
Grade	**Minimum average**	**Minimum Individual units.**
C (5.0)	5.00 N/mm^2	4.00 N/mm^2
C (4.0)	4.00 N/mm^2	3.20 N/mm^2

* The Results Obtained are Satisfactory as per Standard Requirements

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End of Report

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TEST RESULTS OF GRADATION FOR WMM

Lab ID : **CP-RW-2023-02-16-01** **Date: 20-02-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 16-02-23

Type of Mix : WMM (Wet Mix Macadam)

Source of Sample : Devinagar

Date of test : 16-02-23

Oven Dry Weight : 11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	245	245	2.2	97.8	95-100
22.4	2758	3003	27.3	72.7	60-80
11.2	2445	5448	49.5	50.5	40-60
4.75	2365	7813	71.0	29.0	25-40
2.36	1038	8851	80.5	19.5	15-30
0.6	988	9839	89.4	10.6	8-22
0.075	645	10484	95.3	4.7	0-5

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID	:	**CP-RW-2023-02-16-01**	**Date: 20-02-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	16-02-23	
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)	
Source of Sample	:	Devinagar	
Date of test	:	16-02-23	

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	303.5	303.5
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	78.5	75.6
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	224.8	227.5
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.2	0.4
5	Aggregate impact value	(B/A)*100	25.9	24.9
6	Aggregate impact value (Mean of two tests)	Pecentage	. 25.4	

* The results obtained are satisfactory as per standard requirements.

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DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2023-02-16-01**	**Date: 20-02-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	16-02-23	
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)	
Source of Sample	:	Devinagar	
Date of test	:	16-02-23	

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	11.9%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	12.5%	
Combined Flakiness and Elongation Index for WMM	24.4%	

* The results obtained are satisfactory as per standard requirements.

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Format No: CP/TF/01

TEST REPORT ON BITUMEN

Lab ID	:	**CP-RW-2023-01-28-01**	**Date: 20-02-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer's Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	16-02-23	
Sample Type	:	Bitumen	
Reference to BIS codes	:	IS: 1201-2021, IS: 1202-1220(1978) (Reaffirmed-2019)	
Date of test	:	16-02-23	

Test Results

Sl.no	Name of Test	Result	Requirements as per IS:73-2013
1	Penetration at 25°C , in 1/10th mm	**62**	Min 45
2	Softening Point, °C	**50.4**	Min. 47°C
3	Ductility, cm	**100**	Min. 47 cm
4	Flash point, °C	**309**	Min. 220°C
	Fire point, °C	**320**	

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF GRADATION FOR DBM
(IS 2386:(Part 1) 1963 (RA2011)

Lab ID	:	**CP-RW-2023-02-14-01**	**Date: 16-02-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	14-02-23	
Type of Mix	:	DBM-Plant (Dense Bituminous Macadam)	
Date of test	:	14-02-23	
Weight of Sample	:	5000 Grams	

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10 (grading -2)
37.5	0	0	0	100	100
26.5	253	253	5.06	94.94	90-100
19	345	598	11.96	88.04	71-95
13.2	456	1054	21.08	78.92	56-80
4.75	1760	2814	56.28	43.72	38-54
2.36	405	3219	64.38	35.62	28-42
0.3	1360	4579	91.58	8.42	7-21
0.075	230	4809	96.18	3.82	2-8
PAN	191	5000	0.00	0	0

* The results obtained are satisfactory as per standard requirements.

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PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR DENSE BITUMINOUS MACADAM

Lab ID	:	CP-RW-2023-02-14-01	Date: 17-02-23
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	14-02-23	
Type of Mix	:	DBM (Dense Bituminous Macadam)	
Date of test	:	14-02-23	

Table 500-6 : Physical Requirements fo Coarse Aggregate for Dense Bituminous Macadam

Property	Test	Result	Specification	Method of Test
Partical Shape	Flakiness Index	11.0	Combined Flakiness & Elongation Index for DBM is Maximum 35%	IS:2386 Part I
	Elongation Index	10.0		
Strength	Aggregate Impact Value	18.0	Maximum 30%	IS:2386 Part IV
Specific gravity	Specific gravity	2.58	Maximum 2.7	IS:2386 Part III
Water Absorption	Water Absorption	0.38	Maximum 2%	IS:2386 Part III

The results obtained are satisfactory as per standard requirements.

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TESTS RESULTS ON STABILITY OF MIX

Lab ID	:	**CP-RW-2023-02-14-01**	**Date: 17-02-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	14-02-23	
Type of Mix	:	DBM (Dense Bituminous Mecadam)	
Date of test	:	14-02-23	

The results of the tests conducted on the Dense Bituminous Macadam mix sample are as follow

Sl.No	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-11
1	Marshal Stability at 60°C, KN	11.29	11.82	9KN(Min)
2	Marshal flow at 60°C, mm	3.54	3.87	2-4
3	Percent air Voids	4.56	4.17	3-5
4	Percent Voids in mineral Aggregate(VMA %)	14.54	14.76	13-15
5	Percent Voids filled with Bitumen(VFB %)	68.98	70.28	65-75
6	Density, g/cc	2.42	2.40	–

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF AGGEGRATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

Lab ID	:	**CP-RW-2023-02-14-01**	**Date: 17-02-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	14-02-23	
Type of Mix	:	DBM(Dense Bitumnous Macadam)	
Date of test	:	14-02-23	

Type of Binder	:	60/70
% of Binder Used	:	4.5%
Weight of Aggregate	:	200.0 gm
Weight of Binder	:	9 gm
Temperature of water bath	:	40°C

No of test	Retained Stripping Percentage	Stripping Percentage	Average Retained Stripping Percentage	Secified limits as per MORTH specification table 500-8
1	98.0	2.0	98.2	Minimum Retained Coating 95%
2	98.5	1.5		
3	98.0	2.0		

* The results obtained are satisfactory as per standard requirements.

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****End of Report****

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR DBM (IS 2386:(Part 1) 1963 (RA2011)

Lab ID	:	**CP-RW-2023-02-20-01**	**Date: 21-02-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	20-02-23	
Type of Mix	:	DBM (Dense Bituminous Macadam)	
Source of Sample	:	Devinagar Main Road	
Date of test	:	20-02-23	

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	478.5	479.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	4.7	4.50
7	Average percentage	%	4.60	

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Lab ID : CP-RW-2023-02-20-01 Date: 21-02-23

AFTER EXTRACTION(Trail-1)

Weight of Sample(gm) : 478.5

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	16	16	3.34	96.7	90-100
19	26	42	8.78	91.2	71-95
13.2	122	164	34.27	65.7	56-80
4.75	95	259	54.13	45.9	38-54
2.36	78	337	70.43	29.6	28-42
0.3	60	397	82.97	17.0	7-21
0.075	51	448	93.63	6.4	2-8

AFTER EXTRACTION(Trail-2)

Weight of Sample(gm) : 479.5

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	13	13	2.71	97.3	90-100
19	27	40	8.34	91.7	71-95
13.2	124	164	34.20	65.8	56-80
4.75	92	256	53.39	46.6	38-54
2.36	75	331	69.03	31.0	28-42
0.3	60	391	81.54	18.5	7-21
0.075	60	451	94.06	5.9	2-8

* The results obtained are satisfactory as per standard requirements.

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End of Report

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR DBM (IS 2386:(Part 1) 1963 (RA2011)

Lab ID	:	**CP-RW-2023-02-21-01**	**Date: 22-02-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	21-02-23	
Type of Mix	:	DBM (Dense Bituminous Macadam)	
Source of Sample	:	Sapthagiri Layout & Sarovar Layout	
Date of test	:	21-02-23	

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	479	478
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	4.6	4.80
7	Average percentage	%	4.70	

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Lab ID : CP-RW-2023-02-21-01 Date: 22-02-23

AFTER EXTRACTION(Trail-1)

Weight of Sample(gm) : 479

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	20	20	4.18	95.8	90-100
19	28	48	10.02	90.0	71-95
13.2	120	168	35.07	64.9	56-80
4.75	92	260	54.28	45.7	38-54
2.36	71	331	69.10	30.9	28-42
0.3	63	394	82.25	17.7	7-21
0.075	62	456	95.20	4.8	2-8

AFTER EXTRACTION(Trail-2)

Weight of Sample(gm) : 478

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	14	14	2.93	97.1	90-100
19	30	44	9.21	90.8	71-95
13.2	120	164	34.31	65.7	56-80
4.75	90	254	53.14	46.9	38-54
2.36	76	330	69.04	31.0	28-42
0.3	58	388	81.17	18.8	7-21
0.075	55	443	92.68	7.3	2-8

* The results obtained are satisfactory as per standard requirements.

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End of Report

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR DBM (IS 2386:(Part 1) 1963 (RA2011)

Lab ID	:	**CP-RW-2023-11-17-01**	**Date: 18-11-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	17-11-23	
Type of Mix	:	DBM (Dense Bituminous Macadam)	
Source of Sample	:	3rd Cross Road - Ameo Layout	
Date of test	:	17-11-23	

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	478.5	479
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	4.7	4.60
7	Average percentage	%	4.65	

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Lab ID : CP-RW-2023-11-17-01 Date: 18-11-23

AFTER EXTRACTION(Trail-1)

Weight of Sample(gm) : 478.5

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	22	22	4.60	95.4	90-100
19	30	52	10.87	89.1	71-95
13.2	122	174	36.36	63.6	56-80
4.75	90	264	55.17	44.8	38-54
2.36	70	334	69.80	30.2	28-42
0.3	60	394	82.34	17.7	7-21
0.075	65	459	95.92	4.1	2-8

AFTER EXTRACTION(Trail-2)

Weight of Sample(gm) : 479

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	16	16	3.34	96.7	90-100
19	28	44	9.19	90.8	71-95
13.2	126	170	35.49	64.5	56-80
4.75	94	264	55.11	44.9	38-54
2.36	72	336	70.15	29.9	28-42
0.3	55	391	81.63	18.4	7-21
0.075	51	442	92.28	7.7	2-8

* The results obtained are satisfactory as per standard requirements.

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End of Report

TEST RESULTS OF GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2007)

Lab ID : **CP-RW-2023-02-01-01** **Date: 20-02-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 16-02-23

Type of Mix : BC-Plant (Bituminous Concrete)

Date of test : 16-02-23

Oven Dry Weight : 5000 Grams

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	90	90	1.8	98.2	90-100
9.5	700	790	15.8	84.2	70-88
4.75	890	1680	33.6	66.4	53-71
2.36	590	2270	45.4	54.6	42-58
1.18	500	2770	55.4	44.6	34-48
0.6	498	3268	65.4	34.6	26-38
0.3	520	3788	75.8	24.2	18-28
0.15	460	4248	85.0	15.0	12-20
0.075	420	4668	93.4	6.6	4-10
PAN	332	5000	100	0.0	0

* The results obtained are satisfactory as per standard requirements.

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R KARTHIK RECHAN
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End of Report

TEST REPORT OF AGGEGRATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

Lab ID	:	**CP-RW-2023-02-01-01**	**Date: 20-02-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	16-02-23	
Type of Mix	:	BC(Bitumenous Concrete)	
Date of test	:	16-02-23	

Type of Binder	:	60/70
% of Binder Used	:	5.4%
Weight of Aggregate	:	200.0 gm
Weight of Binder	:	10.8 gm
Temperature of water bath	:	40°C

No of test	Retained Stripping Percentage	Stripping Percentage	Average Retained Stripping Percentage	Secified limits as per MORTH specification table 500-8
1	98.4	1.6	98.4	Minimum Retained Coating 95%
2	98.8	1.2		
3	98.1	1.9		

* The results obtained are satisfactory as per standard requirements.

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****End of Report****

PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR BITUMINOUS CONCRETE

Lab ID : **CP-RW-2023-02-01-01** **Date: 20-02-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 16-02-23

Type of Mix : BC (Bituminous Concrete)

Date of test : 16-02-23

Table 500-16 : Physical Requirements fo Coarse Aggregate for Bituminous Concrete

Property	Test	Result	Specification	Method of Test
Partical Shape	Flakiness Index	12.8	Combined Flakiness & Elongation Index for BC is Maximum 35%	IS:2386 Part I
	Elongation Index	11.2		
Strength	Aggregate Impact Value	22.7	Maximum 24%	IS:2386 Part IV
Specific gravity	Specific gravity	2.66	Maximum 2.7	IS:2386 Part III
Water Absorption	Water Absorption	0.2	Maximum 2%	IS:2386 Part III

* The results obtained are satisfactory as per standard requirements.

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TESTS RESULTS ON STABILITY OF MIX

Lab ID : **CP-RW-2023-02-01-01** **Date: 20-02-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 16-02-23

Type of Mix : BC (Bituminous Concrete)

Date of test : 16-02-23

The results of the tests conducted on the Bituminous Concrete mix sample are as follow

Sl.No	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-11
1	Marshal Stability at 60°C, KN	11.12	11.10	10KN(min)
2	Marshal flow at 60°C, mm	3.50	3.54	2-4
3	Percent air Voids	4.80	4.86	3-5
4	Percent Voids in mineral Aggregate(VMA %)	14.32	14.25	13-15
5	Percent Voids filled with Bitumen(VFB %)	71.80	71.60	65-75
6	Density, g/cc	2.23	2.26	–

* The results obtained are satisfactory as per standard requirements.

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End of Report

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID	:	**CP-RW-2023-02-21-01**	**Date: 22-02-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	21-02-23	
Type of Mix	:	BC (Bituminous Concrete)	
Source of Sample	:	Devi Nagar Main Road	
Date of test	:	21-02-23	

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	475	473.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.40	5.70
7	Average percentage	%	5.55	

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Lab ID : CP-RW-2023-02-21-01 **Date: 22-02-23**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	25	25	5.3	94.7	90-100
9.5	49	74	15.6	84.4	70-88
4.75	143	217	45.7	54.3	53-71
2.36	44	261	54.9	45.1	42-58
1.18	37	298	62.7	37.3	34-48
0.6	23	321	67.6	32.4	26-38
0.3	38	359	75.6	24.4	18-28
0.15	42	401	84.4	15.6	12-20
0.075	38	439	92.4	7.6	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 473.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	14	14	3.0	97.0	90-100
9.5	70	84	17.7	82.3	70-88
4.75	113	197	41.6	58.4	53-71
2.36	59	256	54.1	45.9	42-58
1.18	38	294	62.1	37.9	34-48
0.6	23	317	66.9	33.1	26-38
0.3	48	365	77.1	22.9	18-28
0.15	37	402	84.9	15.1	12-20
0.075	43	445	94.0	6.0	4-10

* The results obtained are satisfactory as per standard requirements.

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End of Report

DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : **CP-RW-2023-02-21-01** **Date: 22-02-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 21-02-23

Type of Mix : Tack coat

Date of test : 21-02-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.804	0.772
5	Weight of tack Coat (d=c-b)	Kg	0.024	0.024
6	Rate of spread of tack coat	Kg/sq.m	0.267	0.267
7	Average	Kg/sq.m	0.267	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

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End of Report

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID	:	**CP-RW-2023-02-21-01**	**Date: 22-02-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	21-02-23	
Type of Mix	:	BC (Bituminous Concrete)	
Source of Sample	:	1st Main Road Muneshwara Layout	
Date of test	:	21-02-23	

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474	475
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.60	5.40
7	Average percentage	%	5.50	

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CIVIL Pro Sig..... Date..... BANGALORE

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Lab ID : CP-RW-2023-02-21-01 **Date: 22-02-23**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	32	32	6.8	93.2	90-100
9.5	50	82	17.3	82.7	70-88
4.75	128	210	44.3	55.7	53-71
2.36	39	249	52.5	47.5	42-58
1.18	34	283	59.7	40.3	34-48
0.6	25	308	65.0	35.0	26-38
0.3	40	348	73.4	26.6	18-28
0.15	40	388	81.9	18.1	12-20
0.075	52	440	92.8	7.2	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	18	18	3.8	96.2	90-100
9.5	73	91	19.2	80.8	70-88
4.75	110	201	42.3	57.7	53-71
2.36	60	261	54.9	45.1	42-58
1.18	34	295	62.1	37.9	34-48
0.6	28	323	68.0	32.0	26-38
0.3	50	373	78.5	21.5	18-28
0.15	29	402	84.6	15.4	12-20
0.075	40	442	93.1	6.9	4-10

* The results obtained are satisfactory as per standard requirements.

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CIVIL Pro Sig..... Date..... BANGALORE

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End of Report

DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : **CP-RW-2023-02-21-01** **Date: 22-02-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 21-02-23

Type of Mix : Tack coat

Date of test : 21-02-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.803	0.773
5	Weight of tack Coat (d=c-b)	Kg	0.023	0.025
6	Rate of spread of tack coat	Kg/sq.m	0.256	0.278
7	Average	Kg/sq.m	0.267	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

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End of Report

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : CP-RW-2023-02-21-01 **Date: 22-02-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 21-02-23

Type of Mix : BC (Bituminous Concrete)

Source of Sample : Devi Nagar Main Road

Date of test : 21-02-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474	474.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.60	5.50
7	Average percentage	%	5.55	

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CIVIL Pro Sig..... Date..... BANGALORE

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Lab ID : CP-RW-2023-02-21-01 **Date: 22-02-23**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	31	31	6.5	93.5	90-100
9.5	53	84	17.7	82.3	70-88
4.75	123	207	43.7	56.3	53-71
2.36	40	247	52.1	47.9	42-58
1.18	38	285	60.1	39.9	34-48
0.6	28	313	66.0	34.0	26-38
0.3	37	350	73.8	26.2	18-28
0.15	39	389	82.1	17.9	12-20
0.075	50	439	92.6	7.4	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	26	26	5.5	94.5	90-100
9.5	69	95	20.0	80.0	70-88
4.75	113	208	43.8	56.2	53-71
2.36	57	265	55.8	44.2	42-58
1.18	37	302	63.6	36.4	34-48
0.6	30	332	70.0	30.0	26-38
0.3	48	380	80.1	19.9	18-28
0.15	30	410	86.4	13.6	12-20
0.075	34	444	93.6	6.4	4-10

* The results obtained are satisfactory as per standard requirements.

Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

CIVIL Pro Sig..... Date..... BANGALORE

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End of Report

DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : **CP-RW-2023-02-21-01** **Date: 22-02-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 21-02-23

Type of Mix : Tack coat

Date of test : 21-02-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.805	0.768
5	Weight of tack Coat (d=c-b)	Kg	0.025	0.02
6	Rate of spread of tack coat	Kg/sq.m	0.278	0.222
7	Average	Kg/sq.m	0.250	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
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CIVIL Pro Sig..... Date..... BANGALORE

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End of Report

TEST RESULTS OF GRADATION FOR WMM

Lab ID	:	**CP-RW-2023-02-25-01**	**Date: 27-02-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	25-02-23	
Type of Mix	:	WMM (Wet Mix Macadam)	
Source of Sample	:	Sarovara Layout	
Date of test	:	25-02-23	
Oven Dry Weight	:	11000 Grams	

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	221	221	2.0	98.0	95-100
22.4	2475	2696	24.5	75.5	60-80
11.2	2345	5041	45.8	54.2	40-60
4.75	2013	7054	64.1	35.9	25-40
2.36	1147	8201	74.6	25.4	15-30
0.6	1065	9266	84.2	15.8	8-22
0.075	1268	10534	95.8	4.2	0-5

* The results obtained are satisfactory as per standard requirements.

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | ENVIRONMENTAL
WATER TESTING | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES

TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID	:	**CP-RW-2023-02-25-01**	**Date: 27-02-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	25-02-23	
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)	
Source of Sample	:	Sarovara Layout	
Date of test	:	25-02-23	

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	302.5	302.5
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	77.5	74.6
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	224.8	227.5
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.2	0.4
5	Aggregate impact value	(B/A)*100	25.6	24.7
6	Aggregate impact value (Mean of two tests)	Pecentage	25.1	

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
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R KARTHIK RECHAN
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End of Report

DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2023-02-25-01**	**Date: 27-02-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	25-02-23	
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)	
Source of Sample	:	Sarovara Layout	
Date of test	:	25-02-23	

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	12.3%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	12.7%	
Combined Flakiness and Elongation Index for WMM	25.0%	

* The results obtained are satisfactory as per standard requirements.

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End of Report

TEST RESULTS OF GRADATION FOR WMM

Lab ID : **CP-RW-2023-02-27-01** **Date: 01-03-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 27-02-23

Type of Mix : WMM (Wet Mix Macadam)

Source of Sample : Saptagiri Layout

Date of test : 27-02-23

Oven Dry Weight : 11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	302	302	2.7	97.3	95-100
22.4	2475	2777	25.2	74.8	60-80
11.2	2745	5522	50.2	49.8	40-60
4.75	2145	7667	69.7	30.3	25-40
2.36	1258	8925	81.1	18.9	15-30
0.6	987	9912	90.1	9.9	8-22
0.075	898	10810	98.3	1.7	0-5

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID : **CP-RW-2023-02-27-01** **Date: 01-03-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 27-02-23

Type of Mix : Coarse Aggregate for WMM (Wet Mix Macadam)

Source of Sample : Saptagiri Layout

Date of test : 27-02-23

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	301.5	301.5
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	76.2	73.8
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	224.8	227.5
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.5	0.2
5	Aggregate impact value	(B/A)*100	25.3	24.5
6	Aggregate impact value (Mean of two tests)	Pecentage	24.9	

* The results obtained are satisfactory as per standard requirements.

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End of Report

DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2023-02-27-01**	**Date: 01-03-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	27-02-23	
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)	
Source of Sample	:	Saptagiri Layout	
Date of test	:	27-02-23	

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	11.9%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	12.3%	
Combined Flakiness and Elongation Index for WMM	24.2%	

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF GRADATION FOR WMM

Lab ID : **CP-RW-2023-02-27-01** **Date: 01-03-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 27-02-23

Type of Mix : WMM (Wet Mix Macadam)

Source of Sample : AMCO Layout

Date of test : 27-02-23

Oven Dry Weight : 11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	201	201	1.8	98.2	95-100
22.4	2399	2600	23.6	76.4	60-80
11.2	2185	4785	43.5	56.5	40-60
4.75	1988	6773	61.6	38.4	25-40
2.36	1658	8431	76.6	23.4	15-30
0.6	1495	9926	90.2	9.8	8-22
0.075	745	10671	97.0	3.0	0-5

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID : **CP-RW-2023-02-27-01** **Date: 01-03-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 27-02-23

Type of Mix : Coarse Aggregate for WMM (Wet Mix Macadam)

Source of Sample : AMCO Layout

Date of test : 27-02-23

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	302.2	302.9
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	77.3	74.8
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	224.8	227.5
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.1	0.6
5	Aggregate impact value	(B/A)*100	25.6	24.7
6	Aggregate impact value (Mean of two tests)	Pecentage	25.1	

* The results obtained are satisfactory as per standard requirements.

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DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2023-02-27-01**	**Date: 01-03-23**
Project Name	:	Package No-03 (Consists of 5 works)	
Agency	:	M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/78/2022-23	
Date of Receipt	:	27-02-23	
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)	
Source of Sample	:	AMCO Layout	
Date of test	:	27-02-23	

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	11.6%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	12.6%	
Combined Flakiness and Elongation Index for WMM	24.2%	

* The results obtained are satisfactory as per standard requirements.

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End of Report

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : **CP-RW-2023-03-29-01** **Date: 20-11-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 18-11-23

Type of Mix : BC (Bituminous Concrete)

Source of Sample : 3rd Cross Road - AMCO Layout

Date of test : 18-11-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	475	474.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.40	5.50
7	Average percentage	%	5.45	

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Lab ID : **CP-RW-2023-03-29-01** **Date: 20-11-23**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	24	24	5.1	94.9	90-100
9.5	50	74	15.6	84.4	70-88
4.75	120	194	40.8	59.2	53-71
2.36	55	249	52.4	47.6	42-58
1.18	45	294	61.9	38.1	34-48
0.6	40	334	70.3	29.7	26-38
0.3	34	368	77.5	22.5	18-28
0.15	36	404	85.1	14.9	12-20
0.075	45	449	94.5	5.5	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	30	30	6.3	93.7	90-100
9.5	76	106	22.3	77.7	70-88
4.75	101	207	43.6	56.4	53-71
2.36	42	249	52.5	47.5	42-58
1.18	40	289	60.9	39.1	34-48
0.6	45	334	70.4	29.6	26-38
0.3	36	370	78.0	22.0	18-28
0.15	30	400	84.3	15.7	12-20
0.075	50	450	94.8	5.2	4-10

* The results obtained are satisfactory as per standard requirements.

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DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : **CP-RW-2023-11-18-01** **Date: 20-11-23**

Project Name : Package No-03 (Consists of 5 works)

Agency : M/s Karthik Enterprises, No.123, Aishwarya, 3rd Cross, Ramanna Garden, Vidyaranyapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/78/2022-23

Date of Receipt : 18-11-23

Type of Mix : Tack coat

Date of test : 18-11-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.802	0.768
5	Weight of tack Coat (d=c-b)	Kg	0.022	0.02
6	Rate of spread of tack coat	Kg/sq.m	0.244	0.222
7	Average	Kg/sq.m	0.233	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

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